

PATENT  
113019.164US1 (553-1371US2)

### REMARKS

Claims 1-20 are pending in this application. Claims 1-19 stand rejected. Applicants gratefully acknowledge the allowability of claim 20 if rewritten in independent form. It is respectfully submitted that the pending claims define allowable subject matter.

Claims 1, 7, 8, 14, and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,669,641 (Poland). Claims 9-11 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Poland in view of U.S. Patent No. 6,290,648 (Kamiyama). Claims 12 and 13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Poland in view of U.S. Patent No. 5,454,371 (Fenster). Claims 1, 7, 8, 14, and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,730,032 (Yamauchi). Claims 12 and 13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamauchi in view of Fenster. Claims 1, 7, 8, 14, and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,709,206 (Teboul). Claims 1, 7, 8, 14, and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,059,727 (Fowlkes). Claims 6, 12, and 13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fowlkes in view of U.S. Patent No. 6,939,301 (Abdelhad). Claims 1, 9, and 10 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,148,095 (Prause). Claims 1, 7, and 8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,906,578 (Rajan). Claims 2-6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over either of Poland or Fowlkes in view of U.S. Patent No. 6,585,647 (Winder). Claims 16 and 17 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Poland or Yamauchi, and under 35 U.S.C. § 102(b) as being anticipated by Teboul, Prause, Fowlkes, or Rajan. Claims 18 and 19 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Prause or Fowlkes. Applicants respectfully traverse these rejections for at least the reasons set forth below.

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As amended, independent claim 1 recites a computer program product comprising instructions for enabling a computer to, among other things, “generate and define at least one other plane with respect to a reference plane for the body organ using a spatial mathematical relationship of the at least one other plane to the reference plane”.

None of the cited references, considered alone or in combination, describe a computer program product as recited in claim 1. For example, none of the cited references, considered alone or in combination, describe generating and defining at least one other plane with respect to a reference plane for a body organ using a spatial mathematical relationship of the at least one other plane to the reference plane. The Examiner has cited references that describe rotating or tilting one biplane image relative to another (see Poland), comparing an acquired image with a reference image to determine whether an imaging device is in an optimal position (Rajan), time-aligning image and contour data (Yamauchi), computing relative positional differences between two data slices (see Fowlkes), fusing biplane angiography and IVUS frames of a pullback sequence (see Prause), and aligning axial scan segments by identifying two like points on adjacent segments (see Teboul). However, none of Poland, Rajan, Yamauchi, Fowlkes, Prause, or Teboul, nor any of the other cited references, considered alone or in combination, describe a plane that is *generated and defined* using a spatial mathematical relationship of the plane to a reference plane. Claim 1 is therefore submitted as patentable over the cited references.

Independent claims 16 and 17 are submitted as patentable over the cited references for at least the reasons set forth above with respect to independent claim 1.

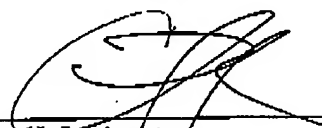
Turning to the dependent claims, Applicants submit that dependent claims 2-15, 18, and 19 further recite subject matter that is not anticipated nor rendered obvious by the cited references. For example, claim 19 further recites that “wherein the spatial mathematical relationship comprises at least one formula that relates the reference plane to the at least one other plane to define one of a shift and a rotation from the reference plane to the at least one other plane.” The cited references fail to describe such a feature. Additionally, claims 2-15, 18,

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and 19 depend from claim 1. Consequently, because claim 1 defines allowable subject matter, claims 2-15, 18, and 19 also define allowable subject matter.

In view of the foregoing amendments and remarks, it is respectfully submitted that the cited references neither anticipate nor render obvious the claimed invention and the pending claims in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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